

**Notice of Allowability**

Application No.

10/719,783

Examiner

Chih-Cheng Glen Kao

Applicant(s)

WAGGENER ET AL.

Art Unit

2882

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ The drawings filed on 20 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 12/23/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Dawn Stephens on February 16, 2005.

2. The application has been amended as follows:

In claim 1, line 10, in the phrase "the logarithm"; replace "the" with - -a- -

In claim 1, line 10, in the phrase "the ratio"; replace "the" with - -a- -

In claim 1, line 13, in the phrase, "the sum totals"; delete "the"

In claim 1, lines 19-20, in the phrase "the group at which"; replace "the" with - -a- -

In claim 4, line 3, in the phrase "the x-ray photon"; delete "the"

In claim 4, line 11, in the phrase "the transmission curves"; delete "the"

In claim 4, line 15, in the phrase "and I the transmitted beam"; insert - -denoting- -  
before "the transmitted beam"

In claim 4, line 16, in the phrase "each row of the matrix"; insert - -3x3- - before  
"matrix"

In claim 4, line 17, in the phrase "with the matrix being"; insert - -3x3- - before  
"matrix"

In claim 4, line 24, in the phrase "the average value"; replace "the" with - -an- -

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In claim 5, line 5, in the phrase “the known total area density”; replace “the” with - -a- -

In claim 5, line 9, in the phrase “the difference”; replace “the” with - -a- -

In claim 5, line 11, in the phrase “forming the total sum”; replace “the” with - -a- -

In claim 5, line 11, in the phrase “total sum of the differences”; delete “the”

In claim 5, line 16, in the phrase “the two curves”; delete “the”

### *Reasons for Allowance*

3. Claims 1-5 are allowed.

The following is an examiner’s statement of reasons for allowance:

Regarding claim 1 prior art does not disclose or fairly suggest a method including the steps of (d) solving a matrix equation for a solution comprising sum totals of areal densities of bone, fat and soft tissue in response to predetermined mass attenuation coefficients for bone, fat and soft tissue at a group of three selected energies and in response to a logarithmic ratio obtained from a curve at each of the three selected energies; (e) repeating step (d) a plurality of times, each time obtaining a solution by solving the matrix equation at a group of three selected energies different from a group at which the matrix equation was previously solved; (f) computing an average of the sum total of the areal densities of bone from the solutions obtained in step(e), an average of the sum total of the areal densities of fat from the solutions obtained in step (e), and an average of the sum total of the areal densities of soft tissue obtained in step (e); and (g) performing an iterative method to estimate the areal densities of bone, fat and soft tissue in response to the sum totals of the areal densities of bone, fat and soft tissue, in combination with all the limitations in the claim. Claims 2-5 are allowed by virtue of their dependency.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents 5673298 (fig. 1) and 6064716 (abstract) disclose densitometry systems.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



gk



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